FY-2018 Inspection Report

Facility Information			
Facility Owner:	Powder River Midstream, LLC (PRM)		CMP100183
Facility Name:	Fletcher/Terhune Compressor Station		F015720
Facility Type:	Compressor Station		Major Source
Facility Location:	S11-T42N-R77W		43.62024, -106.07059
Active Chapter 6, Section 3 Permit	P0022314		
Active Chapter 6, Section 2 Permit(s)	MD-8891A2 (P0000474)		
Inspection Information			
Inspection ID:	INSP006880	Inspection Date:	May 1, 2018
Previous Inspection:	May 18, 2016	Report Date:	May 14, 2018
Division Representative(s):	Austin Woodward, Air Quality Engineer AW		
Company Representative(s):	Derick Morrow, Environmental Manager		
WDEQ-AQD Staff Review:	Tanner Shatto, District 3 Engineer Lars Lone, SSC Program Manager 6/4/18 Nancy Vehr, Air Quality Administrator 6/5/18		

Compliance Issues

The Fletcher/Terhune Compressor Station had no pre-existing compliance issues or concerns. No compliance issues or concerns were discovered during this inspection. Compliance checklists showing the compliance status of the conditions in Permits P0022314 and P0000474 are located in the Appendix of this report.

Facility Description

The Fletcher-Terhune Compressor Station is actually two separate sites, both used to compress Coal Bed Methane (CBM) gas from well to pipeline pressure.

Terhune

At Terhune, low pressure gas is received from nearby wells. Water is removed from the gas using a series of inlet scrubbers. The gas goes through a single stage of compression using screw compressors driven by Reciprocating Internal Combustion Engines (RICE). The gas is then sent to the Fletcher site.

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Terhune

At Terhune, low pressure gas is received from nearby wells. Water is removed from the gas using a series of inlet scrubbers. The gas goes through a single stage of compression using screw compressors driven by Reciprocating Internal Combustion Engines (RICE). The gas is then sent to the Fletcher site.

Fletcher

At Fletcher, water is again removed from the gas this time using a series of dehydration units. The gas then goes through multiple stages of compression using reciprocating compressors driven by RICE. The gas then leaves the facility through pipeline at high pressure. The removed/produced water is stored in tanks until it can be removed from the facility by truck.

Facility Permits

At the time of this inspection, the Fletcher/Terhune Compressor Station was operating under Permits P0022314 and P0000474.

Chapter 6 Section 3 Permit:

P0022314 (Reopened April 24, 2017): This permit was reopened to include OOOOa requirements.

Amended January 19, 2016 to indicate PRM, as the new owner of this facility and to update the general and contact information for the facility.

Originally was issued as a Chapter 6, Section 3 renewal permit. This permit recognized Permit MD-8891A2 (P0000474) as the active Chapter 6, Section 2 permit for this facility and also recognized that this permit superseded all previously issued Chapter 6, Section 2 permits and waivers. This permit also incorporated requirements from 40 CFR 60 Subpart JJJJ and Subpart OOOO, as well as 40 CFR 63 Subpart HH and Subpart ZZZZ. This permit also established Compliance Assurance Monitoring (CAM) requirements for the Fletcher-Terhune Compressor Station.

Chapter 6 Section 2 Permit:

P0000474 (June 26, 2012): This permit extended the construction authorization period for twelve (12) months to June 28, 2013 and established new NO_x Best Available Control Technology (BACT) limits for the previously permitted but not-yet-constructed Caterpillar G3512LE engine. This permit superseded all previous Chapter 6, Section 2 permits and waivers issued for the Fletcher-Terhune Compressor Station.

The following table shows the equipment permitted at this facility.

AQD ID	Company ID	Equipment Description	Size	Controls	Status
ENG001	Fletcher #1	Waukesha L7044GSI	1,680 hp	AFRC/NSCR Catalyst	Operating
ENG002	Fletcher #2	Waukesha L7044GSI	1,680 hp	AFRC/NSCR Catalyst	Operating
ENG003	Fletcher #3	Waukesha L7044GSI	1,680 hp	AFRC/NSCR Catalyst	Operating
ENG004	Fletcher #4	Waukesha L7044GSI	1,680 hp	AFRC/NSCR Catalyst	Operating
ENG005	Fletcher #5	Waukesha L7044GSI	1,680 hp	AFRC/NSCR Catalyst	Disconnected
ENG009	Terhune #1	Caterpillar G3512LE	915 hp	Oxidization Catalyst	Operating
ENG010	Terhune #3	Caterpillar G3512LE	915 hp	Oxidization Catalyst	Disconnected
DHY001	D1a	TEG Dehydration Unit	30 MMSCFD	N/A	Operating
HET001	D1b	Reboiler	0.75 MMBtu/hr	N/A	Operating
DHY003	D2a	TEG Dehydration Unit	30 MMSCFD	N/A	Operating
HET002	D2b	Reboiler	0.75 MMBtu/hr	N/A	Operating
TNK001	T1	Produced Water Tank	400 bbl	N/A	Operating
TNK002	T2	Produced Water Tank	400 bbl	N/A	Operating

Facility Emissions

The major pollutants emitted from the Fletcher/Terhune Compressor Station are Nitrogen Oxides (NO_X), Carbon Monoxide (CO), Volatile Organic Compounds (VOC), and Hazardous Air Pollutants (HAPs), of which Formaldehyde (CH_2O) is of greatest concern. The Fletcher/Terhune Compressor Station is a major source as defined by Chapter 6, Section 3 because: it has the potential to emit more than 100 tons per year (TPY) of NO_x and CO. This facility is required to submit an Annual Emission Inventory due within 60 days from the end of the year. A summary of the 2017 Annual Emission Inventory is attached in the Appendix of this report.

The table below summarizes the potential emissions for NO_X, CO, VOCs, and CH_2O from the equipment currently installed at the Fletcher/Terhune Compressor Station.

Emission Source	NO_X Emissions			CO Emissions			VOC Emissions			CH_2O Emissions[1]	
	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	lb/hr	TPY
ENG001	1.0	3.7	16.2	2.0	7.4	32.4	--	3.7	16.2	0.04	0.16
ENG002	1.0	3.7	16.2	2.0	7.4	32.4	--	3.7	16.2	0.04	0.16
ENG003	1.0	3.7	16.2	2.0	7.4	32.4	--	3.7	16.2	0.04	0.16
ENG004	1.0	3.7	16.2	2.0	7.4	32.4	--	3.7	16.2	0.04	0.16
ENG005	1.0	3.7	16.2	2.0	7.4	32.4	--	3.7	16.2	0.04	0.16
ENG009	1.5	3.0	13.3	0.5	1.0	4.4	0.7	1.4	6.2	0.14	0.62
ENG010	1.5	3.0	13.3	0.5	1.0	4.4	0.7	1.4	6.2	0.14	0.62
HET001	--	0.1	0.2	--	0.1	0.2	Insignificant due to CBM				
HET002	--	0.1	0.2	--	0.1	0.2	Insignificant due to CBM				
Total Facility Emissions	**8.0**	**24.7**	**108.0**	**11.0**	**39.2**	**171.2**	**1.4**	**21.3**	**93.4**	**0.48**	**2.04**

[1] Formaldehyde is the only significant HAP emitted from the engines.

Inspection Observations

Prior to conducting the site inspection, several notifications and reports were reviewed. The following table shows some of these and PRM's compliance status with their requirements.

Notification/Report	Compliance Status
Start-up Notifications	In Compliance
Removal Notifications	In Compliance
Like-Kind Replacement Notifications	In Compliance
Initial Performance Testing Reports	In Compliance
Periodic Testing Reports	In Compliance
Semi-Annual Reports	In Compliance
Annual Compliance Certification	In Compliance

Another part of this inspection was a review of the records PRM is required to keep for this facility. The following table shows some of these records and PRM's compliance status with their requirements.

Record	Compliance Status
Monthly Inlet Catalyst Temperature Records	In Compliance
Monthly ΔP Records	In Compliance
CAM Records	In Compliance
Maintenance Reports	In Compliance

On May 1, 2018, I met with Derick Morrow to perform an inspection of the Fletcher/Terhune Compressor Station. At the site, it was observed that there were seven (7) engines constructed, two (2) dehydration units with reboilers, and two (2) produced water tanks. I was led into each compressor engine building where I observed the serial number and operating parameters for each engine. Each serial number matched division records. I was unable to gain access to Fletcher #5 and check the serial number. Derick informed me that Anadarko Petroleum Company (APC) owns this engine and were in the process of selling it and therefor locked the doors. The engine was disconnected from the header in 2015. Outside of each compressor engine building, the ΔP tubes used for measuring the differential pressure across the catalyst were pointed out to me. The catalyst housing and stack heights were also observed for each engine.

The following table shows the observations made for the inspected engines.

Engine Observation Table

IMPACT ID	Company ID	Source Description	Serial Number	Pre Catalyst Temp. (°F)[1]	Stack Height[2]	ΔP Tubes	Visible Emissions	AFRC	Operating Status
ENG001	Fletcher #1	Waukesha L7044GSI	C-16566/1	985	≈ 2.0 x Building Ht.	Yes	No	Yes	Operating
ENG002	Fletcher #2	Waukesha L7044GSI	C-13303/1	1,020	≈ 2.0 x Building Ht.	Yes	No	Yes	Operating
ENG003	Fletcher #3	Waukesha L7044GSI	C-15739/2	1,023	≈ 2.0 x Building Ht.	Yes	No	Yes	Operating
ENG004	Fletcher #4	Waukesha L7044GSI	C-13739/1	924	≈ 2.0 x Building Ht.	Yes	No	Yes	Operating
ENG005	Fletcher #5	Waukesha L7044GSI	C-12875/5	N/A	≈ 2.0 x Building Ht.	Yes	No	Yes	Disconnected
ENG009	Terhune #1	Caterpillar G3512LE	WPR-01557	775	≈ 2.0 x Building Ht.	Yes	No	Yes	Operating
ENG010	Terhune #3	Caterpillar G3512LE	7NJ-01113	N/A	≈ 2.0 x Building Ht.	Yes	No	Yes	Disconnected

[1] The appropriate pre-catalyst temperature range for a NSCR catalyst is (750°F-1250°F) and for an Oxidation catalyst is (450°F-1350°F).
[2] Stack heights are required to be at least 2.0 times the building height.

Several photographs were taken during this inspection. Some of these photographs are located in the Appendix of this report.

AIR QUALITY CONCERNS:

There were no air quality concerns during the inspection.

COMPLIANCE STATUS:

During the inspection of the Fletcher/Terhune Compressor Station, Powder River Midstream, LLC appeared to be in compliance with all conditions of Air Quality Permits P0022314 and P0000474.

Compliance checklists included in the Appendix show the compliance status with permit conditions of Air Quality Permits P0022314 and P0000474. An emission source summary table, also included in the Appendix, summarizes the facility's historical operational and testing records.

APPENDIX

- Permit P0022314 Compliance Checklist
- Permit P0000474 Compliance Checklist
- Emission Source Summary Table
- Facility Photographs
- 2017 Emission Inventory Summary

(F1) ENGINE CONFIGURATION REQUIREMENTS [WAQSR Ch 6, Sec 2 Permit MD-8891A2]
(Modified April 24, 2017)

(a) The facility shall be limited to no more than **seven** engines consisting of the following:
  (i) **Five** Waukesha L7044GSI engines equipped with AFRC and NSCR catalysts (E1-**E5**).
  (ii) Two Caterpillar G3512LE engines equipped with oxidation catalysts (E11, E12).
  (iii) **Reserved.**

(b) Once removed from the facility, an engine cannot be installed and operated in its place unless authorized by an appropriate permit modification (except as allowed for temporary engine replacement under condition F4).

(c) The permittee may expand the engine configuration beyond that described in paragraph (a) upon receipt of a construction or modification permit issued under Ch 6, Sec 2 of WAQSR that authorizes such change. The permittee must, however, submit an application to modify this operating permit within 12 months of commencement of operation for any engine not already included in this permit.

In Compliance?	**Yes✓**	**No**
Comments: All constructed engines are permitted.		

(F2) VISIBLE EMISSIONS [WAQSR Ch 3, Sec 2]
Visible emissions of any contaminant discharged into the atmosphere from any single emission source shall not exhibit greater than 20 percent opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40 percent opacity.

In Compliance?	**Yes✓**	**No**
Comments: No visible emissions were observed.		

(F3) NO_x, CO, VOC, AND FORMALDEHYDE EMISSIONS LIMITATIONS
[WAQSR Ch 6, Sec 2 Permit MD-8891A2; Ch 3, Sec 3] **(Modified April 24, 2017)**

(a) NO_x, CO, VOC, and formaldehyde emissions from each compressor engine (E1-**E5**, E11 **and** E12) shall not exceed the limits specified for each unit listed in Table I.

(b) Compliance with the g/hp-hr limits is considered compliance with the lb/hr and TPY limits as long as each engine is operated at or below its site-rated capacity.

(c) The permittee shall operate and maintain each engine (E1-**E5**, E11 **and** E12), air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including startup, shutdown, and malfunction.

(d) NO_x emissions from each dehydration unit reboiler (D1b, D2b) shall not exceed 0.20 lb/MMBtu heat input.

Table I: NO_x, CO, VOC, and Formaldehyde Emission Limits

Engine Description		NO_x			CO			VOC			Formaldehyde	
		g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY	lb/hr	TPY
E1-**E5**	Waukesha L7044GSI	1.0	3.7	16.2	2.0	7.4	32.4					
E11, E12	Caterpillar G3512LE	1.5	3.0	13.3	0.5	1.0	4.4	0.7	1.4	6.2	0.14	0.62

In Compliance?	**Yes✓**	**No**
Comments: Emission testing has verified compliance with emission limits.		

(F4) ENGINE REPLACEMENT [WAQSR Ch 6, Sec 2; Ch 6, Sec 3(h)(i)(I)]

(a) Permanent replacement of an engine must be evaluated by the Division under WAQSR Ch 6, Sec 2 prior to such replacement to determine the appropriate permitting action and evaluate the need for additional requirements resulting from the permanent replacement.

(b) Should an engine break down or require an overhaul, the permittee may bring on site and operate a temporary replacement engine until repairs are made. The temporary replacement unit shall be identical or similar to the unit replaced, with emission levels at or below those of the unit replaced. The permittee shall notify the Division in writing of such temporary replacement within five working days and include the following:

(i) The startup date of the temporary replacement unit; and

(ii) A statement regarding the applicability of any New Source Performance Standards (NSPS) in 40 CFR Part 60; any National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 63; and Compliance Assurance Monitoring (CAM) in WAQSR Ch 7, Sec 3 for the temporary replacement unit.

In Compliance?	Yes✓	No
Comments: There have been no unauthorized engine replacements.		

(F5) EMISSIONS TESTING [W.S. 35-11-110; Ch 6, Sec 2 Permit MD-8891A2; 40 CFR 60 Subpart JJJJ] **(Modified April 24, 2017)**

(a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. The Division shall specify the necessary test method(s) and procedure(s) prior to the test, which may include the following test methods found at 40 CFR 60, Appendix A:

(i) For visible emissions, Method 9.

(ii) For NO_X, CO, and VOC emissions from each Caterpillar G3512LE engine (E11, E12), testing shall follow 40 CFR 60 Subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to 40 CFR 60 Subpart JJJJ.

(iii) For other NO_X emissions, Methods 1-4 and 7 or 7E.

(iv) For other CO emissions, Methods 1-4 and 10.

(v) For formaldehyde emissions, the testing shall consist of one 1-hour test following EPA Reference Methods and a Division approved formaldehyde test method. Formaldehyde emissions in terms of lb/hr shall be calculated using the methodology in Sections 10.1.1.1 and 10.1.1.2 of the State of Wyoming's Portable Analyzer Protocol.

(vi) For alternative test methods, or methods used for other pollutants, the approval of the Administrator must be obtained prior to using the test method to measure emissions.

(b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

In Compliance?	Yes✓	No
Comments: No additional testing has been required.		

(F6) EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-8891A2] **(Modified April 24, 2017)**

(a) For visible emissions from each engine (E1-**E5**, E11 **and** E12) and dehydration unit reboiler (D1b, D2b), the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for these units.

(b) The permittee shall measure NO_X and CO emissions from each Waukesha L7044GSI engine (E1-**E5**) at least once every twelve calendar months for comparison with the emission limits specified in condition F3, using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F5. Periodic tests are required within twelve calendar months after completion of the last periodic test. The monitoring protocol can be downloaded at

http://deq.wyoming.gov/aqd/title-v-operating-permit-program/ or is available from the Division upon request.

(c) The permittee shall measure NO_X, CO, and VOC emissions from each Caterpillar G3512LE engine (E11, E12) at least once every twelve calendar months for comparison with the emission limits specified in condition F3, using the methods described in condition F5(a)(ii). Periodic tests are required within twelve calendar months after completion of the last periodic test.

(d) The permittee shall measure formaldehyde emissions from each Caterpillar G3512LE engine (E11, E12) at least once every twelve calendar months for comparison with the emission limits specified in condition F3, using the methods described in condition F5(a)(vi).

(e) For any engine installed:

(i) The permittee shall notify the Division within 24-hours if any engine testing/monitoring shows operation outside the emission limits specified in condition F3.

(ii) The permittee shall repair the engines no later than seven calendar days of such a testing/monitoring event, and shall repair and retest/monitor the affected engine to demonstrate the engine has been returned to operation within the limits in condition F3.

(iii) Compliance with this condition regarding repair and retesting/monitoring shall not be deemed to limit the authority of the Division to cite the owner or operator for an exceedance of the emission limits for any testing which shows noncompliance.

(f) Prior notification of the test date shall be provided to the Division as specified in condition F10(a).

In Compliance?	Yes✓	No
Comments: The appropriate periodic testing has been performed.		

(F7) CATALYST MONITORING AND MAINTENANCE [WAQSR Ch 6, Sec 2 Permit MD-8891A2]

The permittee shall follow the oxidation catalyst monitoring requirements as follows for each Caterpillar G3512LE compressor engine (E11, E12):

(a) Operate and maintain a thermocouple to measure the temperature at the inlet of the catalyst. The inlet temperature shall be monitored and recorded at least monthly. If the temperature is outside the range of 450°F to 1350°F, corrective action shall be taken.

(b) Operate and maintain a device to measure the pressure drop across the catalyst. The pressure drop across the catalyst shall be monitored and recorded at least monthly. If the pressure changes by more than two inches of water at one-hundred percent load, plus or minus ten percent, from the pressure drop as determined below, corrective action shall be taken.

(i) Reference pressure drop for each engine shall be established during the initial performance test.

(ii) When a catalyst is replaced, the reference pressure drop shall be re-established for that engine during the first periodic test conducted in compliance with condition F6 which occurs after the catalyst replacement.

(c) Compliance with 40 CFR 63 Subpart ZZZZ §63.6605 and §63.6640 can be used in lieu of the monitoring and maintenance requirements in paragraphs (a) and (b) of this condition, and condition F3(c).

In Compliance?	Yes✓	No
Comments: Review of catalyst temperatures and differential pressures show Powder River Midstream to be in compliance.		

(F8) COMPLAINCE ASSURANCE MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 7, Sec 3(c)(ii); Ch 6, Sec 2 Permit MD-8891A2] **(Modified April 24, 2017)**

(a) For NO_X and CO emissions from each Waukesha L7044GSI engine (E1-**E5**), the permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached as Appendix A of this permit, and shall conduct monitoring as follows during active operation of each emission source:

(i) The permittee shall operate the engines within the catalyst inlet temperature range and differential pressure range specified in the CAM plan.

(A) The permittee shall monitor and record, at minimum once daily, the inlet temperature into the catalyst.

(B) The permittee shall monitor and record, at minimum once each calendar month, the pressure differential across the engine catalyst.

(C) An excursion, which is considered operation outside of the ranges established in the approved CAM plan, shall trigger immediate inspection and, if appropriate, corrective action.

(ii) The permittee shall measure NO_X and CO emissions from each Waukesha L7044GSI engine (E1-**E5**), as specified in condition F6 to further refine the relationship between emissions and the indicator ranges in the CAM plan.

(A) The permittee shall measure the CAM indicators during the tests. Following each test, the permittee shall evaluate the data from the test, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.

(b) **Reserved.**

In Compliance?	**Yes✓**	**No**
Comments: CAM requirements are being met.		

(F9) TESTING AND MONITORING RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II) & Ch 7, Sec 3(i)(ii)]

(a) For any testing or monitoring performed under conditions F5 and F6, other than Method 9 observations, the permittee shall record, as applicable, the following:

(i) The date, place, and time of sampling, measurements, or observations;

(ii) The date(s) analyses were performed;

(iii) The company or entity that performed the analyses or observations;

(iv) The analytical techniques or methods used;

(v) The results of such analyses or observations;

(vi) The operating conditions and parameters as they existed at the time of testing, monitoring, or observation including, for engines, horsepower, inlet temperature to the catalyst, and pressure drop across the catalyst, and

(vii) The probable cause of any exceedance or deviation from permit requirements and any corrective actions or preventive measures taken.

(b) For CAM required under condition F8 the permittee shall:

(i) Record the inlet temperature into the catalyst and the pressure differential across the engine catalyst as measured during sampling required by condition F8(a)(ii), and the evaluation of indicator ranges.

(ii) Record the date, time, and duration of any excursions as well as the CAM indicator value(s) during each excursion.

(iii) Maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to WAQSR Ch 7, Sec 3(h), any activities undertaken to implement a Quality Improvement Plan (QIP), and other supporting information required to be maintained under WAQSR Ch 7, Sec 3.

(c) For any Method 9 observations required by the Division under condition F5, the permittee shall keep field records in accordance with Section 2.2 of Method 9.

(d) For the monitoring required under condition F7, the permittee shall record the catalyst inlet temperature, pressure drop, any maintenance and/or corrective action triggered, the reference pressure drop for each engine at the time of the monitoring, and the dates of catalyst replacement for each engine.

(e) The permittee shall retain these records on-site at the facility for a period of at least five (5) years from the date the records are generated.

In Compliance?	Yes✓	No
Comments: PRM is keeping all records for a period of at least 5 years. Some of these records were reviewed during the inspection.		

(F10) NOTIFICATION OF TESTING AND SHUTDOWN
[WAQSR Ch 6, Sec 2 Permit MD-8891A2; 40 CFR 60 Subpart JJJJ] **(Modified April 24, 2017)**

(a) For the testing required by condition F6, the permittee shall notify the Division as follows:

(i) For engines subject to the requirements of 40 CFR 60 Subpart JJJJ, the permittee shall provide test notification as specified in §60.8 of 40 CFR 60.

(ii) For other engines, notification of the test date shall be provided at least fifteen (15) days prior to testing.

(b) Upon shutdown and removal of an engine from the facility, written notification is required within fifteen (15) days of removal. Such notification shall be submitted on a complete Engine Installation/Removal form. The form can be downloaded from the Air Quality website at **http://deq.wyoming.gov/aqd/new-source-review/**or obtained from the division upon request.

(c) Notifications may be provided electronically through the Division's IMPACT system (https://airimpact.wyo.gov), or in writing to the DEQ Air Quality Contact listed on page 3 of this permit.

In Compliance?	Yes✓	No
Comments: The division has been notified of all removed or permanently shut down engines.		

(F11) TEST REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

(a) The permittee shall report the results of any emissions tests performed under conditions F5 and F6 within forty-five (45) days of completing the tests. The reports shall include the information indicated in condition F9(a).

(i) However, if testing for any engine shows operation out of compliance, the Division must be notified within 24 hours as indicated under condition F6(e).

(ii) As applicable, the reports shall also include the evaluation of the CAM indicator ranges as required by condition F9(b). If the evaluation indicates the CAM ranges need to be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend the operating permit, within 60 days of completing the test.

(b) The reports shall reference this permit condition (F11), and be submitted to the Division in accordance with condition G4.

In Compliance?	Yes✓	No
Comments: Test reports have been received by the Division.		

(F12) MONITORING REPORTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)] **(Modified April 24, 2017)**

(a) The following shall be reported to the Division for each semiannual reporting period from January 1 through June 30, and from July 1 through December 31, within 31 days of the end of each period (by July 31 and January 31, respectively, each year):

(i) A statement verifying that the emission units listed in condition F6(a) fired only natural gas during the reporting period.

(ii) The number, duration, and cause of any excursions from the temperature and pressure drop ranges specified in condition F7 for each Caterpillar engine (E11, E12). The report shall include a summary of any maintenance and/or corrective actions taken; if no excursions occurred during the reporting period, this shall be stated in the report.

(iii) Summary results of the CAM monitoring required under condition F8 for each Waukesha engine (E1-**E5**). The results shall include the following, as applicable:

(A) Information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken; and

(B) A description of the action taken to implement a QIP (if required) during the reporting period as specified in Ch 7, Sec 3(h). Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has reduced the likelihood of similar excursions.

(b) All instances of deviations from the conditions of this permit must be clearly identified in each report.

(c) The reports shall reference this permit condition (F12), and be submitted to the Division in accordance with condition G4.

In Compliance?	**Yes✓**	**No**
Comments: Semi-Annual Monitoring Reports have been received by the Division.		

(F13) GREENHOUSE GAS REPORTS [W.S. 35-11-110] **(Modified April 24, 2017)**

The permittee shall submit to the Division a summary of any report(s) required to be submitted to the EPA under 40 CFR Part 98.

(a) The reports shall be submitted to the Division within 60 days of submission to EPA, in a format as specified by the Division.

(b) The reports shall be submitted in accordance with condition G4(a) of this permit, to the attention of the Division's Emission Inventory Program.

(F14) REPORTING EXCESS EMISSIONS & DEVIATIONS FROM PERMIT REQUIREMENTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)] **(Modified April 24, 2017)**

(a) General reporting requirements are described under the General Conditions of this permit. The Division reserves the right to require reports as provided under condition G1 of this permit.

(b) Emissions which exceed the limits specified in this permit and which are not reported under a different condition of this permit shall be reported annually with the emission inventory unless specifically superseded by condition G17, condition G19, or other condition(s) of this permit. The probable cause of such exceedance, the duration of the exceedance, the magnitude of the exceedance, and any corrective actions or preventative measures taken shall be included in this annual report. For sources and pollutants which are not continuously monitored, if at any time emissions exceed the limits specified in this permit by 100 percent, or if a single episode of emission limit exceedance spans a period of 24 hours or more, such exceedance shall be reported to the Division within one working day of the exceedance. (Excess emissions due to an emergency shall be reported as specified in condition G17. Excess emissions due to unavoidable equipment malfunction shall be reported as specified in condition G19.)

(c) Any other deviation from the conditions of this permit shall be reported to the Division in writing **or electronically through the Division's IMPACT system (https://airimpact.wyo.gov),** within 30 days of the deviation or discovery of the deviation.

SUBPART JJJJ REQUIREMENTS

[40 CFR Part 60 Subparts A and JJJJ; WAQSR Ch 5, Sec 2; Ch 6, Sec 2 Permit MD-8891A2] **(Modified April 24, 2017)**

The permittee shall meet all **applicable** requirements of 40 CFR 60 Subparts A and JJJJ, and WAQSR Ch 5, Sec 2, as they apply to affected stationary spark ignition (SI) internal combustion engines (ICE). (As required by condition F4(b), if an engine is replaced or reconstructed, subpart applicability will need to be reevaluated and a statement regarding applicability submitted to the Division.) For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. An affected source is defined at §60.4230.

On **October 21, 2016** engines E2 **and E3 were** not subject to Subpart JJJJ according to information submitted to the Division by the permittee; Engines E1, **E4, E5** and E12 must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ. However, on **October 21, 2016** engines E1, **E4, E5** and E12 had no applicable requirements from Subpart JJJJ because of their dates of manufacture. **Affected source includes the Caterpillar G3512LE compressor engine E11, based on the reported order and manufacture dates.**

SUBPART OOOO REQUIREMENTS [40 CFR 60 Subparts A and OOOO; WAQSR Ch 5, Sec 2]

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and OOOO and WAQSR Ch 5, Sec 2 as they apply to affected facilities as specified under §60.5365.

SUBPART OOOOa REQUIREMENTS [40 CFR 60 Subparts A and OOOOa; and WAQSR Ch 5, Sec 2]

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and OOOOa and WAQSR Ch 5, Sec 2, as they apply to affected facilities as specified under §60.5365a.

SUBPART HH REQUIREMENTS [40 CFR 63, Subparts A and HH; WAQSR Ch 5, Sec 3; Ch 6, Sec 2 Permit MD-8891A2]

The permittee shall meet all **applicable** requirements of 40 CFR 63 Subparts A and HH and WAQSR Ch 5, Sec 3, as they apply to affected sources as defined in §63.760, located at oil and natural gas production facilities. For area sources, the affected source includes each triethylene glycol (TEG) dehydration unit as specified in §63.760(b)(2), including units D1 and D2.

SUBPART ZZZZ REQUIREMENTS [40 CFR 63 Subparts A and ZZZZ; WAQSR Ch 5, Sec 3; Ch 6, Sec 2 Permit MD-8891A2]

The permittee shall meet all **applicable** requirements of 40 CFR 63 Subparts A and ZZZZ and WAQSR Ch 5, Sec 3 as they apply to each affected source as indicated in §63.6590(a). An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. (As required by condition F4(b), if an engine is replaced or reconstructed, subpart applicability will need to be re-evaluated and a statement regarding applicability submitted to the Division.) This facility is currently identified as an area source of HAP emissions. Affected sources at this facility include E1-**E5**, E11 and E12.

(CAM-1) COMPLIANCE ASSURANCE MONITORING REQUIREMENTS

[WAQSR Ch 7, Sec 3(b) and (c)]

The permittee shall follow the CAM plan attached as Appendix A of this permit and meet all CAM requirements of WAQSR Ch 7, Sec 3 as they apply to the units identified in condition F8. Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Ch 7, Sec 3, except for additional requirements specified under conditions CAM-2 through CAM-4.

(CAM-2) OPERATION OF APPROVED MONITORING [WAQSR Ch 7, Sec 3(g)]

(a) At all times, the permittee shall maintain the monitoring under this section, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall conduct all monitoring in continuous operation (or at all required intervals) at all times that the pollutant specific emissions unit is operating.

(c) Upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emission unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices. The response shall include minimizing the period of any start-up, shutdown or malfunction and taking any corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion.

(d) If the permittee identifies a failure to achieve compliance with an emission limit for which the monitoring did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing documents a need to modify the existing indicator ranges, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes.

(CAM-3) QUALITY IMPROVEMENT PLAN (QIP) REQUIREMENTS [WAQSR Ch 7, Sec 3(h)]

(a) If the Division or the EPA Administrator determines, based on available information, that the permittee has used unacceptable procedures in response to an excursion or exceedance, the permittee may be required to develop and implement a Quality Improvement Plan (QIP).

(b) If required, the permittee shall maintain a written Quality Improvement Plan (QIP) and have it available for inspection.

(c) The plan shall include procedures for conducting one or more of the following:
  (i) Improved preventative maintenance practices.
  (ii) Process operation changes.
  (iii) Appropriate improvements to control methods.
  (iv) Other steps appropriate to correct control.
  (v) More frequent or improved monitoring (in conjunction with (i) - (iv) above).

(d) If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(e) Following implementation of a QIP, upon any subsequent determination under paragraph (a) above, the Division may require the permittee to make reasonable changes to the QIP if the QIP failed to address the cause of control device problems, or failed to provide adequate procedures for correcting control device problems as expeditiously as practicable.

(f) Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limit(s) or any existing monitoring, testing, reporting, or recordkeeping requirements that may be applicable to the facility.

(CAM-4) SAVINGS PROVISIONS [WAQSR Ch 7, Sec 3(j)]

Nothing in the CAM regulations shall excuse the permittee from compliance with any existing emission limit or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may be applicable to the facility.

Compliance Certification [WAQSR Ch 6, Sec 3(h)(iii)(E)] **(Modified April 24, 2017)**

(C1) (a) The permittee shall submit by January 31 each year a certification addressing compliance with the requirements of this permit. The certification shall be submitted as a stand-alone document separate from any monitoring reports required under this permit.

(b) (i) For visible emissions, the permittee shall assess compliance with condition F2 of this permit by verifying natural gas was the sole fuel source used for the units specified in condition F6(a).

(ii) For NO_X, CO, VOC, and formaldehyde emissions, the permittee shall assess compliance with condition F3 by conducting the testing and monitoring required by conditions F6(b)-(d), and by conducting the catalyst monitoring and maintenance and compliance assurance monitoring required by conditions F7 and F8.

(iii) For greenhouse gas reporting, the permittee shall assess compliance with condition F13 by verifying that reports were submitted in accordance with condition F13(b).

(iv) For any engine subject to 40 CFR 60 Subpart JJJJ, the permittee shall assess compliance with Subpart JJJJ by conducting any testing and monitoring required by §§60.4237, 60.4243, and 60.4244, and by reviewing the records required by §§60.4245 and 60.4246.

(v) The permittee shall assess compliance with 40 CFR 60 Subpart OOOO by conducting any applicable testing and monitoring required by §§60.5413 through 60.5417 and by reviewing any applicable records required by §60.5420.

(vi) For any affected facility subject to 40 CFR 60 Subpart OOOOa, the permittee shall assess compliance with Subpart OOOOa by conducting any applicable testing and monitoring required by §§60.5410a through 60.5417a and by reviewing any applicable records required by §60.5420a.

(vii) The permittee shall assess compliance with 40 CFR 63 Subpart HH by reviewing any records required by §§63.760 and 63.774.

(viii) The permittee shall assess compliance with 40 CFR 63 Subpart ZZZZ by conducting any testing and monitoring required by §§63.6610 through 63.6640 and by reviewing the records required by §§63.6655 and 63.6665.

(c) The compliance certification shall include:
- (i) The permit condition or applicable requirement that is the basis of the certification;
- (ii) The current compliance status;
- (iii) Whether compliance was continuous or intermittent; and
- (iv) The methods used for determining compliance.

(d) For any permit conditions or applicable requirements for which the source is not in compliance, the permittee shall submit with the compliance certification a proposed compliance plan and schedule for Division approval.

(e) The compliance certification shall be submitted to the Division in accordance with condition G4 of this permit and to the Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice (8ENF-T), U.S. EPA - Region VIII, 1595 Wynkoop Street, Denver, CO 80202-1129.

(f) Determinations of compliance or violations of this permit are not restricted to the monitoring requirements listed in paragraph (b) of this condition; other credible evidence may be used.

Compliance Schedule [WAQSR Ch 6, Sec 3(h)(iii)(C) and (D)]

(C2) The permittee shall continue to comply with the applicable requirements with which the permittee has certified that it is already in compliance.

(C3) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.

In Compliance?	**Yes✔**	**No**
Comments: Compliance Certification received 1/24/2018.		

1. That authorized representatives of the Division of Air Quality be given permission to enter and inspect any property, premise or place on or at which an air pollution source is located or is being constructed or installed for the purpose of investigating actual or potential sources of air pollution and for determining compliance or non-compliance with any rules, standards, permits or orders.

2. That all substantive commitments and descriptions set forth in the application for this permit, unless superseded by a specific condition of this permit, are incorporated herein by this reference and are enforceable as conditions of this permit.

3. That Powder River Midstream, LLC shall obtain an operating permit in accordance with Chapter 6, Section 3 of the WAQSR.

4. That all notifications, reports and correspondences associated with this permit shall be submitted to the Stationary Source Compliance Program Manager, Air Quality Division, 122 West 25th Street, Cheyenne, WY 82002 and a copy shall be submitted to the District Engineer, Air Quality Division, 2100 West 5th Street., Sheridan, WY 82801.

In Compliance?	Yes✓	No
Comments: Powder River Midstream is submitting notifications, reports, and correspondences as required.		

5. That written notification of the actual date of initial start-up for each engine is required fifteen (15) days after start-up in accordance with Chapter 6, Section 2(i)(ii) of the WAQSR. Such notification shall be submitted on a complete Engine Installation/Removal form. The form can be downloaded from the Air Quality website http://deq.state.wy.us/aqd or obtained from the Air Quality Division.

6. That upon shutdown and removal of an engine from the facility, written notification is required within fifteen (15) days of removal. Such notification shall be submitted on a complete Engine Installation/Removal form.

7. That the date of commencement of construction shall be reported to the Administrator within thirty (30) days of commencement. In accordance with Chapter 6, Section 2(h) of the WAQSR, approval to construct or modify shall become invalid if construction is not commenced by June 28, 2013 (twenty-four (24) months after installation of engine E12). The Administrator may extend the period based on satisfactory justification of the requested extension.

8. That performance tests be conducted, in accordance with Chapter 6, Section 2(j) of the WAQSR, within thirty (30) days of achieving a maximum design rate but not later than ninety (90) days following initial start-up, and a written report of the results be submitted. The operator shall provide fifteen (15) days prior notice of the test date. If a maximum design rate is not achieved within ninety (90) days of start-up, the Administrator may require testing be done at the rate achieved and again when a maximum rate is achieved.

In Compliance?	Yes✓	No
Comments: All initial tests were completed within 90 days of startup.		

9. Initial performance tests, as required by Condition 9 of this permit, shall be conducted on the following sources:

   i. Caterpillar G3606LE (E9-E10), Caterpillar G3512LE (E13):

NO_x, CO, and VOC Emissions: Testing shall follow 40 CFR part 60, subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to 40 CFR part 60, subpart JJJJ. For the initial performance test, testing shall not consist of Method 19 or ASTM Methods.

Formaldehyde Emissions (Lean Burns Only): Each engine shall be tested for formaldehyde. Testing shall consist of three (3) 1-hour tests following EPA Reference Methods and a Division approved formaldehyde test method.

A test protocol shall be submitted to this office for review and approval prior to testing. Engine horsepower, inlet temperature to the catalyst, pressure drop across the catalyst and other operating conditions shall be recorded during each test run and submitted with the test report. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results shall be submitted to this Division within forty-five (45) days of completion.

In Compliance?	Yes✓	No
Comments: The correct test methods were used for the initial performance tests.		

10. That emissions from the following engines shall be limited as follows:

Engine	ID	NO_x			CO			Formaldehyde	
		g/hp-hr	lb/hr	tpy	g/hp-hr	lb/hr	tpy	lb/hr	tpy
Waukesha L7044GSI	E1-E6	1.0	3.7	16.2	2.0	7.4	32.4	--	--

In Compliance?	Yes✓	No
Comments: Testing has demonstrated compliance with emission limits.		

11. That emissions from each engine shall be limited as follows:

Engine	ID	NO_x			CO			VOC			Formaldehyde	
		g/hp-hr	lb/hr	tpy	g/hp-hr	lb/hr	tpy	g/hp-hr	lb/hr	tpy	lb/hr	tpy
Caterpillar G3512LE	E11-E12	1.5	3.0	13.3	0.5	1.0	4.4	0.7	1.4	6.2	0.14	0.62
	E13	1.0	2.0	8.8	0.5	1.0	4.4	0.7	1.4	6.2	0.14	0.62
Caterpillar G3606LE	E9-E10	0.7	2.7	12.0	0.25	1.0	4.3	0.7	2.7	12.0	0.27	1.20
Waukesha F3524GSI	E14	0.7	1.3	5.7	2.0	3.7	16.2	0.7	1.3	5.7	--	--

In Compliance?	Yes✓	No
Comments: Testing has demonstrated compliance with emission limits.		

12. Upon completion of the modification, the engine configuration for the Fletcher - Terhune Compressor Station shall be limited to twelve (12) engines consisting of the following:

E1-E6: Waukesha L7044GSI engines equipped with an AFRC and a NSCR catalyst.

E9-E10: Caterpillar G3606LE engines equipped with an oxidation catalyst.

E11-E13: Caterpillar G3512LE engines equipped with an oxidation catalyst.

E14: Waukesha F3524GSI engine equipped with an AFRC and a NSCR catalyst.

In Compliance?	Yes✓	No
Comments: The facility consisted of seven (7) engines with five (5) Waukesha L7044GSI engines and two (2) Caterpillar G3512LE engines equipped with an AFRC/NSCR catalyst and Oxidation catalyst respectively.		

13. That WGR Asset Holding Company, LLC shall follow the testing requirements as follows for engines E1-E6, E9-E14:

i. That every twelve (12) calendar months, or as otherwise specified by the Administrator, the engines E9-E14 shall be tested to verify compliance with the NO_x, CO, VOC, and formaldehyde limits set forth in this permit. Formaldehyde testing is only required for the lean burn engines. VOC testing is only required for engines with VOC limits established in this permit, or for engines subject to 40 CFR part 60, subpart JJJJ. Periodic tests for each engine are required within twelve (12) calendar months after completion of the initial performance test or the last periodic test. Testing for NO_x, CO and VOCs shall follow 40 CFR part 60, subpart JJJJ §60.4244, except that §60.8 only applies to engines subject to 40 CFR part 60, subpart JJJJ. Testing for formaldehyde shall consist of at least one 1-hour test following EPA reference methods and a Division approved formaldehyde test method. Formaldehyde emissions in terms of lb/hr shall be calculated using the methodology in Sections 10.1.1.1 and 10.1.1.2 of the State of Wyoming's Portable Analyzer Protocol. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results of the tests shall be submitted to this Division within forty-five (45) days of completing the tests.

ii. That annually, or as otherwise specified by the Administrator, the engines E1-E6 shall be tested for NO_x and CO with EPA reference methods or the State of Wyoming's Portable Analyzer Protocol. Periodic tests for each engine are required within twelve (12) calendar months after completion of the last periodic test. Notification of the test date shall be provided to the Division fifteen (15) days prior to testing. Results of the tests shall be submitted to this Division within forty-five (45) days of completing the tests.

iii. The Air Quality Division shall be notified within twenty-four (24) hours of any engine where the testing/monitoring required by (i) and (ii) of this condition shows operation outside the permitted emission limits. By no later than seven (7) calendar days of such testing/monitoring event, the owner or operator shall repair and retest/monitor the affected engine to demonstrate that the engine has been returned to operation within the permitted emission limits. Compliance with this permit condition regarding repair and retesting/monitoring shall not be deemed to limit the authority of the Air Quality Division to cite the owner or operator for an exceedance of the permitted emission limits for any testing/monitoring required by (i) and (ii) of this condition which shows noncompliance.

In Compliance?	Yes✓	No
Comments: Emission testing has been done each year the engines have operated, using the correct testing methods.		

14. That Powder River Midstream, LLC shall follow the monitoring and maintenance requirements as follows for engines E1-E6, E9-E14 equipped with an oxidation catalyst or NSCR catalyst:

i. Operate and maintain the engine, air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including startup, shutdown, and malfunction.

ii. Install a thermocouple to measure the inlet catalyst temperature.

a. The inlet temperature shall be recorded at least monthly. If the temperature is outside of the range listed below, corrective action shall be taken.

NSCR Catalyst:	750 °F to 1250 °F
Oxidation Catalyst:	450 °F to 1350 °F

iii. Install a device to measure the pressure drop across the catalyst.

a. The pressure drop across the catalyst shall be recorded at least monthly. If the pressure changes by more than two (2) inches of water at one-hundred percent (100%) load, plus or minus ten percent (10%), from the pressure drop as determined below, corrective action shall be taken.

1. During the initial performance test required by this permit, the reference pressure drop shall be established. When the catalyst is replaced, the reference pressure drop shall be reestablished during the subsequent periodic testing required by this permit.

iv. Records of catalyst inlet temperature, pressure drop, and any maintenance or corrective actions shall be kept and maintained for a period of five (5) years and shall be made available to the Division upon request.

In Compliance?	**Yes✓**	**No**
Comments: Review of catalyst temperatures and differential pressures show Powder River Midstream to be in compliance.		

15. Compliance with 40 CFR part 63, subpart ZZZZ §63.6605 and §63.6640 can be used in lieu of the monitoring and maintenance requirements in Condition 15.

16. That the stack height for the compressor engines shall be a minimum of 2.0 times the compressor building height.

In Compliance?	**Yes✓**	**No**
Comments: The stack heights appeared to be at least 2.0 times the building height.		

17. Powder River Midstream, LLC shall comply with all applicable requirements of 40 CFR part 60, subpart JJJJ.

18. That Powder River Midstream, LLC shall comply with all applicable requirements of 40 CFR part 63, subpart ZZZZ.

19. That Powder River Midstream, LLC shall comply with all applicable requirements of 40 CFR part 63, subpart HH.

20. Effective upon permit issuance, the conditions of this permit shall supersede all previously issued Chapter 6, Section 2 permits and waivers for the Fletcher-Terhune Compressor Station.

Emission Source Summary Table

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Emission Source Summary[1]
Powder River Midstream, LLC - Fletcher/Terhune Compressor Station

Source Information

IMPACT ID	Company ID	Serial Number	Start-up Date	Shut Down Period(s)	Removal Date	Subject to JJJJ
ENG001	Fletcher #1	C-16566/1	September 20, 2012			No
ENG002[2]	Fletcher #2	C-14147/3	September 22, 2005		December 19, 2017	No
ENG002	Fletcher #2	C-13303/1	December 21, 2017			Yes
ENG003	Fletcher #3	C-15739/2	July 27, 2006			No
ENG004	Fletcher #4	C-13739/1	September 5, 2008			No
ENG005	Fletcher #5	C-12875/5	September 25, 2007	2015-2018		No
ENG006	Fletcher #6	C-13922/1	September 25, 2007		May 10, 2016	No
ENG009[2]	Terhune #1	WPR-01589	July 9, 2009		August 17, 2017	No
ENG009	Terhune #1	WPR-01557	August 17, 2017			No
ENG010	Terhune #3	7NJ-01113	June 28, 2010	2015-2018		No
ENG012	Terhune #2	C-14298/4	February 24, 2010	2015-2016	September 14, 2016	No

Permit ID	Company ID	Serial Number	Initial Test Date	Pollutants Tested	Tested In Compliance
ENG001	Fletcher #1	C-16566/1	October 8, 2012	NO_X, CO	Yes
ENG002[2]	Fletcher #2	C-14147/3	October 10, 2005	NO_X, CO	Yes
ENG002	Fletcher #2	C-13303/1	March 8, 2018	NO_X, CO, VOC	Yes
ENG003	Fletcher #3	C-15739/2	August 30, 2006	NO_X, CO	Yes
ENG004	Fletcher #4	C-13739/1	November 25, 2008	NO_X, CO	Yes
ENG005	Fletcher #5	C-12875/5	December 11, 2007	NO_X, CO	Yes
ENG006	Fletcher #6	C-13922/1	November 28, 2007	NO_X, CO	Yes
ENG009[2]	Terhune #1	WPR-01589	October 22, 2009	NO_X, CO, VOC, CH_2O	Yes
ENG009	Terhune #1	WPR-01557	September 7, 2017	NO_X, CO, VOC, CH_2O	Yes
ENG010	Terhune #3	7NJ-01113	September 9, 2010	NO_X, CO, VOC, CH_2O	Yes
ENG012	Terhune #2	C-14298/4	May 24, 2010	NO_X, CO, VOC	Yes

Emission Source Summary Table

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Periodic Testing Information									
Permit ID	Company ID	Serial Number	Frequency	Pollutants	Periodic Test Dates (2013-2017)				
ENG001	Fletcher #1	C-16566/1	12-Month	NO_X, CO	9/18/2013	9/16/2014	9/10/2015	9/8/2016	9/7/2017
ENG002[2]	Fletcher #2	C-14147/3	12-Month	NO_X, CO	4/16/2013	4/10/2014	4/7/2015	4/15/2016	4/11/2017
ENG002	Fletcher #2	C-13303/1	12-Month	NO_X, CO					
ENG003	Fletcher #3	C-15739/2	12-Month	NO_X, CO	9/18/2013	9/16/2014	9/16/2015	9/8/2016	9/7/2017
ENG004	Fletcher #4	C-13739/1	12-Month	NO_X, CO	9/18/2013	9/16/2014	9/15/2015	9/8/2016	9/7/2017
ENG005	Fletcher #5	C-12875/5	12-Month	NO_X, CO	4/16/2013	4/10/2014	Blinded Off	--	--
ENG006	Fletcher #6	C-13922/1	12-Month	NO_X, CO	4/16/2013	4/9/2014	4/7/2015	Removed	
ENG009[2]	Terhune #1	WPR-01589	12-Month	NO_X, CO, VOC, CH_2O	9/26/2013	9/23/2014	9/21/2015	9/8/2016	Removed
ENG009	Terhune #1	WPR-01557	12-Month	NO_X, CO, VOC, CH_2O					Initial
ENG010	Terhune #3	7NJ-01113	12-Month	NO_X, CO, VOC, CH_2O	8/15/2013	8/13/2014	Blinded Off	--	--
ENG012	Terhune #2	C-14298/4	12-Month	NO_X, CO, VOC	4/16/2013	4/14/2014	Blinded Off	Removed	

[1]This table does not include engines that existed at this facility prior to the current active permits.

[2]Engine had a Like-Kind Replacement.

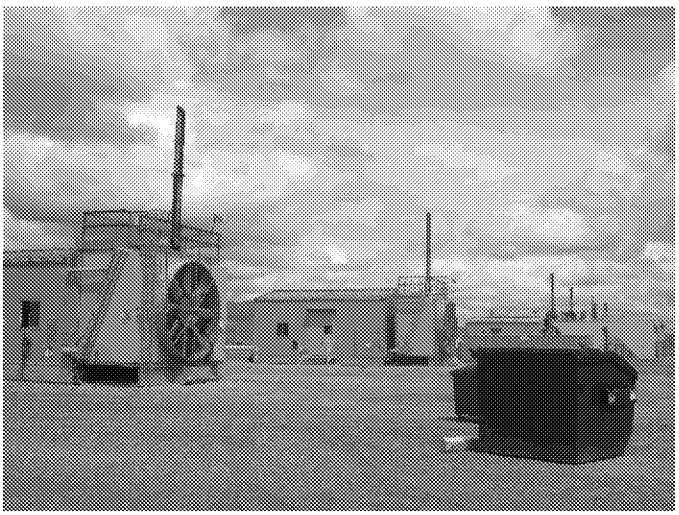
Company
Powder River Midstream, LLC

Facility
Fletcher/Terhune Compressor Station

Subject
Fletcher Facility Sign

Date Taken
May 1, 2018

Photographer
Austin Woodward



Company
Powder River Midstream, LLC

Facility
Fletcher/Terhune Compressor Station

Subject
Fletcher Facility Overview

Date Taken
May 1, 2018

Photographer
Austin Woodward

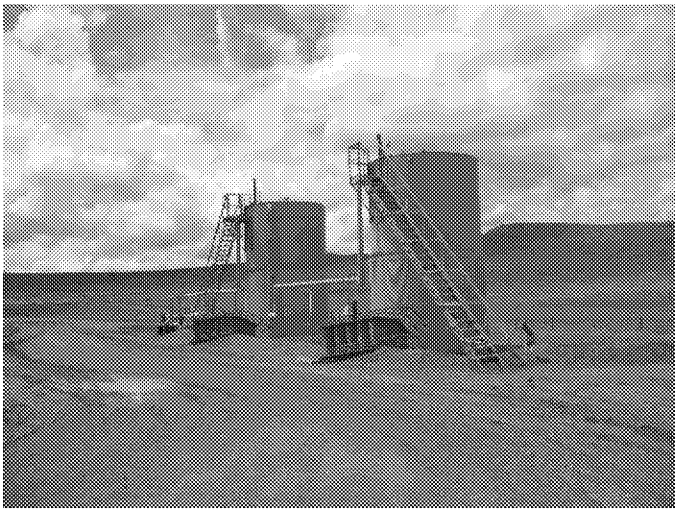
Company
Powder River Midstream, LLC

Facility
Fletcher/Terhune Compressor Station

Subject
Dehydration Units

Date Taken
May 1, 2018

Photographer
Austin Woodward



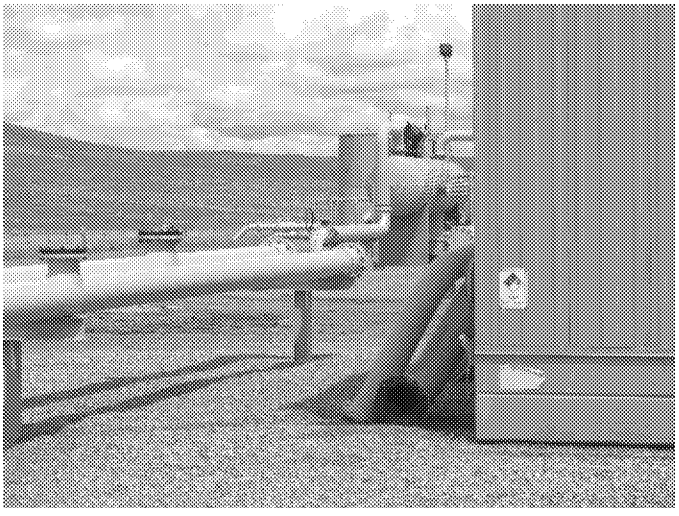
Company
Powder River Midstream, LLC

Facility
Fletcher/Terhune Compressor Station

Subject
Produced Water Tanks

Date Taken
May 1, 2018

Photographer
Austin Woodward



Company
Powder River Midstream, LLC

Facility
Fletcher/Terhune Compressor Station

Subject
Disconnected Fletcher #5

Date Taken
May 1, 2018

Photographer
Austin Woodward

Emissions Inventory (EI0000775) for 2017
Fletcher/Terhune
F015720
February 22, 2018

2017 Emissions Summary Report : EI0000775

Apr 18 2018, 09:39:55

- **Report Data**

Content Type: Annual

Regulatory Requirement(s): Title V Program

Submitted Date: 02/22/2018

Approved Date: 03/05/2018

- **Facility Emissions**

Pollutant	Fugitive Amount	Stack Amount	Total	Units
PM Primary (Includes filterables > 10 microns + condensibles)	0	4.476	4.476	TONS
PM10 Primary (Includes filterables + condensibles)	0	4.476	4.476	TONS
PM2.5 Primary (Includes filterables + condensibles)	0	4.476	4.476	TONS
CO - Carbon Monoxide	0	125.952	125.952	TONS
NOx - Nitrogen Oxides	0	70.8579	70.8579	TONS
SO2 - Sulfur Dioxide	0	0	0	TONS
VOC - Volatile Organic Compounds	0	62.7101	62.7101	TONS
Ammonia	0	0	0	TONS

The following information was developed using Wyoming DEQ-generated pollutant emission calculations. The values may be provided to USEPA by the Wyoming DEQ. You may modify these Wyoming DEQ-generated emission calculations if you have more accurate information.

Pollutant	Fugitive Amount	Stack Amount	Total	Units
Carbon Dioxide	0	0	0	TONS
Methane	0	0	0	TONS
Acenaphthene	0	0	0	TONS
Acenaphthylene	0	0	0	TONS
Acetaldehyde	0	0	0	TONS
Acrolein	0	0	0	TONS
Benzene	0	0	0	TONS
Benzo[B]fluoranthene	0	0	0	TONS
Benzo[K]Pyrene	0	0	0	TONS
Benzo[G,H,I,]Perylene	0	0	0	TONS
Biphenyl	0	0	0	TONS

Butadiene, 1,3-	0	0	0	0	0	0	TONS
Carbon Tetrachloride	0	0	0	0	0	0	TONS
Chlorobenzene	0	0	0	0	0	0	TONS
Chloroform	0	0	0	0	0	0	TONS
Chrysene	0	0	0	0	0	0	TONS
Dichloropropene, 1,3- (Technical Grade)	0	0	0	0	0	0	TONS
Ethyl Benzene	0	0	0	0	0	0	TONS
Ethyl Chloride (Chloroethane)	0	0	0	0	0	0	TONS
Ethylene Dibromide (Dibromoethane)	0	0	0	0	0	0	TONS
Ethylene Dichloride (Dichloroethane, 1,2-)	0	0	0	0	0	0	TONS
Ethylidene Dichloride (1,1-Dichloroethane)	0	0	0	0	0	0	TONS
Fluoranthene	0	0	0	0	0	0	TONS
Fluorene	0	0	0	0	0	0	TONS
Formaldehyde	0	1,160.54	0	0	1,160.54	1,340.54	POUNDS
Hexane, N-	0	0	0	0	0	0	TONS
Methanol	0	0	0	0	0	0	TONS
Methylene Chloride (Dichloromethane)	0	0	0	0	0	0	TONS
Methylnaphthalene, 2-	0	0	0	0	0	0	TONS
Naphthalene	0	0	0	0	0	0	TONS
PAH, 16-	0	0	0	0	0	0	TONS
Phenanthrene	0	0	0	0	0	0	TONS
Phenol	0	0	0	0	0	0	TONS
Propylene Dichloride (1,2-Dichloropropane)	0	0	0	0	0	0	TONS
Pyrene	0	0	0	0	0	0	TONS
Styrene	0	0	0	0	0	0	TONS
Tetrachloroethane, 1,1,2,2-	0	0	0	0	0	0	TONS
Tetrachloroethylene (Perchloroethylene)	0	0	0	0	0	0	TONS
Toluene	0	0	0	0	0	0	TONS
Trichloroethane, 1,1,2-	0	0	0	0	0	0	TONS
Trimethylpentane, 2,2,4- (Isooctane)	0	0	0	0	0	0	TONS
Vinyl Chloride	0	0	0	0	0	0	TONS

Xylenes (Isomers and Mixture)	0	0	0	0	0 tons

Attachments

Attachment ID	Description	Type	Public Document
2661	PM Calculations	Calculations	X
2662	MO Answer	Responsible Official Answer	X
2281	FNR - Fletcher-Terhune Compressor Station - 2017 Emission Inventory Review	Other	X
2414	2017 Invoice	Emissions Fee Invoice	X

Notes

User Name	Date	Note
Woodward, Austin	12/28/2018	Total emissions in 2017 for NOx, CO, and VOC were higher than 2016 due to more total operating hours in 2017. Formaldehyde was lower in 2017 due to a lower stack test number for ENG008.

Emission Units Without Detailed Emissions

Apr 10 2019, 09:38:55

Emission Unit	Why Excluded	Company Equipment ID
DHY001	Less Than Reporting Requirement	D1a
DHY003	Less Than Reporting Requirement	D2a
ENG005	Did Not Operate	E5
ENG010	Did Not Operate	E12
TNK001	Did Not Operate	T1
TNK002	Did Not Operate	T2

Report Pollutant Summary: Total Emissions (Tons)

Unit	SCC Id	PM-PRI	PM10-PRI	PM25-PRI	CO	NOX	SO2	VOC	NH3
ENG001	2-02-002-53	1.078	1.078	1.078	31.9865	15.9932	0	15.9932	0
ENG002	2-02-002-53	1.051	1.051	1.051	31.1725	15.5862	0	15.5862	0
ENG003	2-02-002-53	1.066	1.066	1.066	31.6202	15.8101	0	15.8101	0
ENG004	2-02-002-53	1.024	1.024	1.024	30.3844	15.1922	0	15.1922	0
ENG009	2-02-002-54	0.257	0.257	0.257	0	7.31264	0	0.040833	0

HET001	**3-10-002-28**	0	0	0	0.3942	0.4818	0	0.0438	0		
HET002	**3-10-002-28**	0	0	0	0.3942	0.4818	0	0.0438	0		
Total		4.476	4.476	4.476	125.952	70.8579	0	62.7101	0		